# YEARLY CONTENTS

# INTERNATIONAL JOURNAL OF POWDER METALLURGY

**TABLE OF CONTENTS FOR VOLUME 47, NUMBERS 1–6, 2011**

## 47/1 JANUARY/FEBRUARY 2011


2 Editor's Note
4 Newsmaker *...Cèsar Molins, Jr.*
7 Consultants' Corner *Joseph Tunick Strauss*

FOCUS: Sustainability
12 Sustainable Manufacturing Initiative: U.S. Department of Commerce
*W. McElnea*
17 The Dawn of Materials Design and Processing for a Sustainable World
*I.E. Anderson, C. Meskers and C.J. Jenks*
23 Sustainability Manufacturing Within the PM Industry
*J.R. Dale*
27 Powder Metallurgy—Intrinsically Sustainable
*J.R. Dale*
33 Sustainability at Hitachi Powdered Metals Co., Ltd. (Japan)
*M. Shibata and G. Owens*

HOWARD I. SANDEROW OUTSTANDING TECHNICAL PAPER: PowderMet2010
39 On the Development of an Aluminum PM Alloy for "Press–Sinter–Size" Technology
*C.D. Boland, D.P. Bishop, R.L. Hexemer Jr. and I.W. Donaldson*

DEPARTMENTS
49 PM Industry News in Review
50 APMI Membership Application
51 Meetings and Conferences
52 Instructions for Authors
54 Web Site Directory
63 PM Bookshelf
64 Advertisers' Index


## 47/2 MARCH/APRIL 2011


2 Editor's Note
4 Newsmaker *Ingo Cremer*
7 PMT Spotlight On *...William R. Mossner*
9 Consultants' Corner *Lou Koehler*

FOCUS: Metal–Ceramic Systems
13 Metal Oxides: Friend or Foe of PM?
*P.W. Taubenblat, FASM, FAPMI*
19 Opportunities for PM Processing of Metal Matrix Composites
*J.L. Johnson*
31 A Perspective on the Earliest Commercial PM Metal–Ceramic Composite: Cemented Tungsten Carbide
*A. Bose, FAPMI*
51 Importance of Iron and Copper Oxides in PM
*P.W. Taubenblat, FASM, FAPMI*
57 Principles and Methods of Metal–Ceramic Bonding for PM Applications
*V.A. Greenhut*

DEPARTMENTS
77 PM Industry News in Review
79 Meetings and Conferences
80 Advertisers' Index


## 47/3 MAY/JUNE 2011


2 Editor's Note
5 Reader's Forum
8 Newsmaker *Alberto Molinari*
11 Consultants' Corner *David Whittaker*
15 Annual Technology Review: Innovations Support Industry Growth
21 Exhibitor Showcase

ENGINEERING & TECHNOLOGY
31 Thermophysical Properties of Sintered Steels: Effect of Porosity
*H. Danninger, C. Gierl, G. Mühlbauer, M.S. Gonzalez, J. Schmidt and E. Specht*

RESEARCH & DEVELOPMENT
45 In Situ Observation of Shape Loss During Polymer Burnout in PM Processing
*R.K. Enneti, S.J. Park, R.M. German and S.V. Atre*
55 A Novel Approach for Manufacturing Functionally Graded Cemented Tungsten Carbide Composites
*J. Guo, P. Fan, X. Wang and Z.Z. Fang*

DEPARTMENTS
63 PM Industry News in Review
65 Book Review
67 Meetings and Conferences
68 Bookshelf
69 APMI Membership Application
70 Instructions for Authors
72 Advertisers' Index


## 47/4 JULY/AUGUST 2011


2 Editor's Note
3 2011 APMI Fellow Awards
4 Consultants' Corner *M.I. (Mike) Jaffe*
9 2011 Poster Awards
11 2011 PM Design Excellence Awards Competition Winners
18 Axel Madsen/CPMT Scholar Reports

RESEARCH & DEVELOPMENT
21 Effect of Particle-Size Distribution on Processing and Properties of MIM 17-4PH
*K. Murray, A.J. Coleman, T.A. Tingskog and D.T. Whychell, Sr.*
29 Diamond–Metal Matrix Interaction in Tools Fabricated by Conventional and Current-Induced Sintering
*W. Tillmann, C. Kronholz, M. Ferreira, A. Knote, W. Theisen, P. Schütte and J. Schmidt*

GLOBAL REVIEW
37 Powder Metallurgy in India
*G.S. Upadhyaya*

ENGINEERING & TECHNOLOGY
45 State of the PM Industry in North America—2011
*M.E. Lutheran*

DEPARTMENTS
49 PM Industry News in Review
51 Meetings and Conferences
52 PM Bookshelf
53 APMI Membership Application
54 Instructions for Authors
56 Advertisers' Index

## 47/5 SEPTEMBER/OCTOBER 2011


2 Editor's Note
4 Newsmaker: *David Whittaker*
7 PMT Spotlight On ...*Roger A. Neyman*

FOCUS: Hardmaterials
9 Hardmaterials: Overview
*Robert Dowding*

Best Paper Award—2011 International Conference on Tungsten, Refractory & Hardmaterials VIII:
11 Potassium-Doped Tungsten: Beyond Incandescent Lamp Wires
*A. Hoffmann and I. Wesemann*

23 Properties of Refractory Metals and Alloys Fabricated by Combustion-Driven High-Pressure Powder Compaction
*K. Nagarathnam, D. Massey and M. Opeka*

33 Field-Assisted Sintering of Tungsten-, Tantalum-, and Tungsten Carbide–Base Materials
*S. Chanthapan, J. Singh, A. Kulkarni, C. Haines and D. Kapoor*

41 Properties of Nanocrystalline, Fluidized-Bed-Reduced Tungsten, Tungsten Carbide, and Tungsten Rare-Earth Alloy Powders
*A.J. Sherman, B. Doud and D. Hardy*

48 Effect of Carrier-Gas Selection on Mechanical Properties of Cold-Sprayed Tantalum
*M. Trexler, R. Carter, D. Helfritch and V. Champagne*

DEPARTMENTS
53 PM Industry News in Review
54 Meetings and Conferences
56 Advertisers' Index

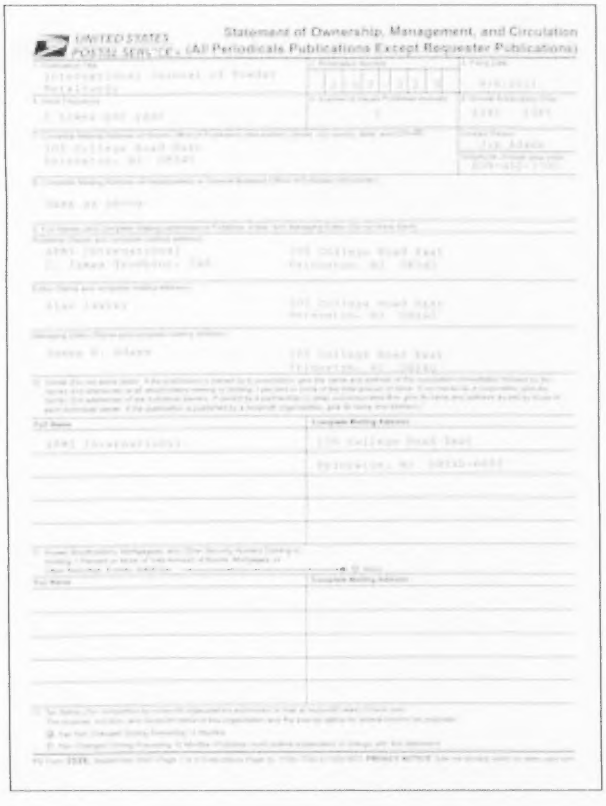
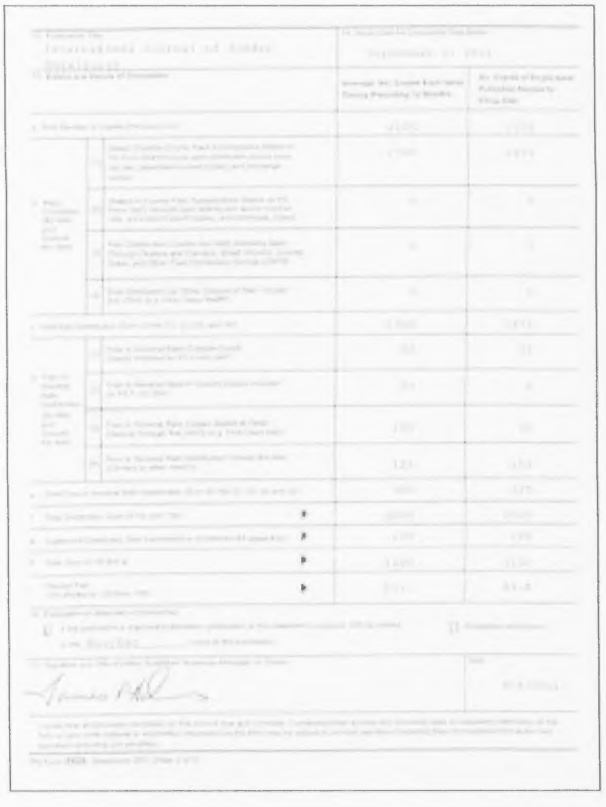

## 47/6 NOVEMBER/DECEMBER 2011


2 Editor's Note
4 Newsmaker: Matt Bulger
7 Consultants' Corner *J. McCall*
11 Excellence in Metallography Awards

RESEARCH & DEVELOPMENT

21 Taguchi Optimization of MIM Titanium Sintering
*A.T. Sidambe, I.A. Figueroa, H.G.C. Hamilton and I. Todd*

29 Microstructural Characterization of Conventionally and Plasma-Sintered Fe-NbC and Fe-TaC Composites
*A.N. Klein, A.E. Martinelli, R.M. Nascimento, D.S. de Araújo Paulo, B.C. de Freitas Guedes and C. Alves Jr.*

38 Fatigue of a Plasma-Nitrided Sinter-Hardening Steel
*E. Santuliana, C. Menapace, S. Libardi, G. Lorenzi and A. Molinari*

DEPARTMENTS
46 Book Review
47 Conference Report
49 PM Industry News in Review
53 Meetings and Conferences
54 Table of Contents: Volume 47, Numbers 1–6, 2011
56 Advertisers' Index